Operating Instructions for Steinel Porosimeter
Type FP 100-SMO (8101)
– Abridged edition, version 01.09 –

! Safety warnings !

- The porosimeter is a sensitive precision measuring instrument and must therefore be handled with care.
- **It is intended exclusively for measuring the air permeability of textiles.**
- It must only be operated in conjunction with suitable equipment connection leads (as supplied).
- Servicing work must only be carried out by the manufacturer. The guarantee will become null and void if the unit is opened. Malfunctioning must also be expected if the unit is opened.
- The unit must only be used for the intended purpose in closed rooms.
- The limit values specified on the type plate must be observed.
- The unit must be protected from direct sunlight and other sources of heat.
- The ventilation holes must not be obstructed.
- The porosimeter must be taken out of operation if damage is established on the unit or accessory parts.

Delivery includes

1 set of operating instructions – abridged edition –
1 porosimeter, type FP100-SMO
1 accessory bag
2 perforated test plates: *(24.x)* for upper limit value, *(19.x)* for lower limit value
1 unit connection lead (Europe)
1 universal mains adapter
1 adapter USB to RS 232
3 spare miniature glass fuses 5x20 mm; 2.5T

Mode of operation

A flow of air is sucked through the fabric specimen, a tube system and differential pressure transducer. The unit measures the resultant differential pressure (proportional to volumetric flow), absolute pressure and medium temperature and uses these readings for determining the *air permeability* of the specimen. The display indicates air pressure, medium temperature as well as *air permeability*.

Quick start

- Before starting the unit, make sure it has had time to adjust sufficiently to room temperature.
- Stand the unit on a firm surface and connect the unit connection leads to the power supply (using the mains adapter if necessary). The mains adapter supplied with the unit fits all standard socket outlets.
- Turn the unit on at the mains switch. The display indicates the following information in sequence:

Ver. x.xx S/N xxxxxxxx	Software version Serial number
Check motor OK	Motor function test, in working order
Check I/O temp, pabs OK	Sensor function, in working order
Temp stab. wait a moment	Temperature stabilising
ZEROPOINT Press wait a moment	Zero balance
READY 20.0C 1025mbar	Unit is ready (example values)

At the start of the measurement series:
Position the perforated test plate (lettering facing up, notch according to marking) at the centre of the circular specimen locating area (see section on Precision adjustment).

- Otherwise: without stretching, place fabric specimen between specimen locating area and pressure plate.
- Firmly press down hand plate until you hear lever engage. Now release hand plate. Measurement will now start. If the lever does not engage, measurement will be interrupted. Press hand plate down once more.

MEASUREMENT...	Measuring

- Once measurement has been completed, the display shows the specimen's *air permeability* and the meter continues measuring until lever will be released. The last value have to be discarded.

45.6 l/s/m2	*Air permeability* (example value)

- Actuate lever and remove fabric specimen / perforated test plate.

READY 20.0C 1025mbar	Unit is ready (example values)

- NOTE: If measurement is aborted prematurely because the lever has been released, the abort signal will sound and the following message will appear:

STOPPED	Measurement interrupted

Precision adjustment (balancing)

After switching on and waiting for approx. 5 min., the porosimeter will be balanced by fitting the perforated test plates. Use the plate with the value printed on it that comes closest to the prescribed limit value. When the display value shows, carefully turn the rotary knob anticlockwise (decrements value) or clockwise (increments value) as necessary until plate value and display value match. Fix the setting using the locking lever on the right of the rotary knob.
This precision adjustment procedure must be carried out at the beginning of a measurement series and should be repeated if the measuring instrument is used for prolonged periods.

Servicing

A sticker showing the date of the next inspection is affixed to the porosimeter lever. The unit must be sent to the manufacturer for servicing and calibration by the date shown.

CE Declaration of conformity

The Steinel porosimeter, type FP100-SMO (8101), conforms to Low Voltage Directive 73/23/EEC, as amended, and to EMC Directive 98/336/EEC, as amended.

Technical specifications

Mains voltage:	110 to 245 VAC	Dimensions (l/w/h):	50x340x240 mm
Mains frequency:	47 to 63 Hz	Weight:	8.4 kg
Max. power consumption:	50 W	IP rating:	IP 20
Permissible ambient temperature:	+5 °C to +30 °C	Measuring range (standard):	0 to 60 l/s/m²

Service

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